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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,773	01/31/2005	Katsuyoshi Okabe	2005_0075A	1629

513 7590 10/24/2006

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EXAMINER

SANDERSON, JOSEPH W

ART UNIT PAPER NUMBER

3644

DATE MAILED: 10/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/522,773	Applicant(s) OKABE ET AL.	
	Examiner Joseph W. Sanderson	Art Unit 3644	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 6-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/31/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement filed 31 January 2005 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

### ***Specification***

2. The disclosure is objected to because of the following informalities:

Page 3, lines 6, "nozzle" should be --nozzles--;

Page 10, line 25, "passed" should be --passing--;

Page 20, line 12, "an lower tray" should be --a lower tray--;

Appropriate correction is required.

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Objections***

4. Claim 1 is objected to because of the following informalities:

Line 5 recites "at least one box-shaped culturing module," however lines 6, 8, 17 and 20 recite "the culturing module," implying a limitation of only one module.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes et al. (US 2 952 096) in view of Martin (US 3 458 951), "Greenhouse Production of Gerbera Daisies," herein referred to as ACES, Bhatt (US 5 101 593), Nijssen et al. (US 4 914 858) and the Tanemori (JP 2000-272 711) English translation abstract.

Regarding independent claim 1:

Hughes discloses a plant growing enclosure, green feed being a form of plant propagation and the plants therein capable of being transplanted, having at least one air conditioner (Fig 1, 15) installed on a completely light-shielding closed structure (Fig 1,

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10), the air conditioner inherently controlling the temperature and humidity of the inside air.

Hughes does not disclose the air conditioner surrounded by a thermally insulated wall.

Martin teaches a growing enclosure having an air conditioner (column 3, lines 26-30) surrounded by a thermally insulated wall (column 3, lines 9-10) to provide optimal characteristics for controlling the internal conditions (column 3, lines 13-17).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Hughes to locate the air conditioner within a thermally insulated structure as taught by Martin for the well known advantage of reducing heat transfer through the walls of the enclosing structure, and to reduce the size and number of holes within the walls, further reducing the heat transfer and need for sealant.

Hughes, as modified, renders at least one box-shaped culturing module disposed in the internal space of the closed structure (Fig 1, 16) each having a front face opening opened to the internal space of the closed structure;

a plurality of transplant production shelves arranged vertically in multi-layer in the culturing module (Fig 2, 18-20) forming a transplant production space between the upper and lower transplant production shelves; and

a sub-irrigation unit mounted on each transplant production shelf (Fig 2, 21-23 ).

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Hughes, as modified, discloses a controlled growing environment having open trays for horticultural production, but does not disclose a plurality of plug trays for holding a plant-growing medium.

ACES teaches sowing plants in environmentally controlled germination chambers in plug trays, plug trays being equivalent horticultural production means to open trays (page 3, see underlined sections).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have further modified Hughes to include the plug trays as taught by ACES as plug trays are art recognized equivalent means for horticultural production.

Hughes, as modified, renders the temperature of the internal environment of the structure as controllable, but does not specifically render the structure as having thermally insulated walls.

Bhatt teaches an enclosure for growing plants having walls that are thermally insulated (column 3, lines 23-25) to restrict the passage of heat through the walls (column 2, lines 37-39) which would saving money on air conditioner operation.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have further modified Hughes to include the wall insulation of Bhatt to restrict heat passage and save money on air conditioner operation.

Hughes, as modified, is silent on lighting means, and does not render an artificial lighting unit provided on the back of each transplant shelf.

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Nijssen teaches artificial lighting units provided on the back of each transplant production shelf irradiating light to the lower trays (Fig 1, 5) to further plant growth in entirely darkened, closed accommodations.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have further modified Hughes to include the artificial lighting units of Nijssen to further plant growth in entirely darkened, closed accommodations.

Hughes, as modified, renders an environmental system for an enclosure comprising an air conditioner, but does not render at least one air fan fixed to the back wall of each transplant production shelf of the culturing module.

The Tanemori abstract teaches an environmental system for an enclosure comprising at least one air fan fixed to the back wall of each shelf (Fig 2, 3) to maintain a constant volume of air passing through the shelf (abstract).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have further modified Hughes to include the at least one air fan on each shelf as taught by the Tanemori abstract to maintain a constant volume of air passing through the shelf.

Regarding claims 2 and 3:

The discussion above regarding claim 1 is relied upon.

Hughes, as modified, renders a plant growing enclosure with a plurality of culturing modules, but does not specifically render the modules arranged in one line with their front face openings facing to the same direction, and a second line of culturing

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modules having their front face openings opposed to the front face openings in the first line, creating a work space and an air circulation path between the two lines.

Bhatt teaches a plurality of culturing modules arranged in one line with their front face openings facing in one direction (Fig 2, modules on left face the center aisle), and a second line of culturing modules having their front face openings opposed to the front face openings in the first line (Fig 2, modules on right face the modules on the left), creating a work space and an air circulation path between the two lines.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have further modified Hughes to provide the above arrangement of modules to allow a worker easy access to move or remove trays for maintenance.

Regarding claim 4:

The discussion above regarding claim 1 is relied upon.

Hughes, as modified, does not specifically render the air conditioner unit fixed to the upper portion of the inner face of the closed structure side wall located at the rear of the back wall of the culturing module.

Martin teaches an air conditioner unit fixed to the upper portion of the inner face of the closed structure side wall located at the rear of the back wall of the culturing module (Fig 4, 36) to induce a circulating airflow (arrows in Fig 4; column 3, lines 53-57).



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It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have further modified Hughes to position the air conditioner as taught by Martin to induce a circulating airflow within the enclosure.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes et al. ('096) in view of Martin ('951), ACES, Bhatt ('593), Nijssen et al. ('858) and the Tanemori (JP '711) English translation abstracts applied to claim 1 above, and further in view of Carlson et al. (US 4 569 150).

Hughes, as modified, renders a controlled growing environment, but does not render a carbon dioxide analyzer inside the closed structure and a carbon dioxide cylinder outside.

Carlson teaches a controlled plant growing enclosure comprising a carbon dioxide system having a carbon dioxide analyzer (Fig 1, 203) positioned inside the structure, and a carbon dioxide cylinder (Fig 1, 211) positioned outside of the structure, which is capable of supplying a predetermined amount of carbon dioxide into the closed structure from the cylinder in accordance with an electrical signal sent from the analyzer, to increase the rate of growth of the plants inside (column 1, lines 27-30).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have further modified Hughes to include the carbon dioxide system as taught by Carlson to provide a carbon dioxide rich atmosphere and increase the rate of growth of the plants inside

***Allowable Subject Matter***

8. Claims 6-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. *Regarding claim 6:* The prior art does not render an obvious combination of the claimed structure.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bastel (US 875 235) teaches a culturing module having water pipe irrigation means in each tray.

Howlsey, Jr. et al. (US 2 897 631) teaches a growing enclosure having a plurality of shelves, each with a sub-irrigation tray.

Carter (US 2 940 218) teaches a culturing module having a cutout formed in a dam for each tray.

de Monbrison (US 4 493 163) teaches a culturing module having a sub-irrigation unit with a plurality of ribs.

Snekkenes (US 4 837 973) teaches a plant sub-irrigation system.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph W. Sanderson whose telephone number is 571-272-0474. The examiner can normally be reached on M-F 7:30 am - 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu can be reached on 571-272-7045. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joseph W. Sanderson

JWS

A handwritten signature in black ink, appearing to read 'Teri Luu', with a stylized flourish at the end.

TERI PHAM LUU  
SUPERVISORY  
PRIMARY EXAMINER